a fright. A little later he was often attacked by severe cramps in the left leg, and following these the characteristic pellagris erythema put in an appearance. There was also diarrhea for three years often accompanied by violent abdominal pains, and gradually the left hand became deformed and useless. The physical examination showed a tendency to carry the head a little to the left, but it was probably due to habit as the patient could place it in a normal position without difficulty. The left forearm was slightly drawn out of position and the fingers of the left hand much contracted, so that an attempt to straighten them caused pain to the patient. The integuments of the two hands were of a purplish color on both surfaces and always covered with sweat. This color was present a little less deep upon the thighs and legs. Sensations were all normal, although vision was slightly affected, a not uncommon occurrence in pellagra. Most of the reflexes were normally present except in the left forearm and hand. The memory appeared to be considerably enfeebled. The power of abstraction and mental representation was greatly altered. The patient believed himself persecuted by his relatives. There was also a tendency toward megalomania. It is the opinion of the authors that the deformity of the left hand was due to a retraction of the palmar aponeurosis, as the fact that the patient could easily move the second and third phalanges of the middle and right little finger removed the possibility of contraction or paralysis. In their opinion it was a trophic affection due to an alteration in the nervous system, although they were able only to conjecture the location of the lesion which caused it. It may possibly depend upon a lesion of the peripheral nerves, or upon alterations of the cells of the gray substance of the periependyma. JELLIFFE.

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1. Recent and Old Investigation of the Brain. EDWARD HITZIG.
2. A Contribution to the Pathology of Porencephaly. H. ZINGERLE.
3. Pachymeningitis Cervicalis Hypertrophica and Pachymeningitis Interna Hemorrhagica with Chronic Progressive Dementia in the Young. M. PROBST.
4. A Contribution to the Etiology of the Periodical Psychoses. CLEMENS NEISSER.
5. Metastatic Abscesses in the Central Nervous System. R. CASSIRER.
6. Diffuse Hemorrhagic Encephalo-myelo-meningitis. MARTIN BARTELS.
7. Central Neurofibromatosis and Tumors of the Cerebello-pontine Angle. HENNEBERG and MAX KOCH.

1. *Recent and Old Brain Researches.*—A detailed study of the methods and results of brain investigations and experiments. Too extensive and detailed to admit of a satisfactory short summary, but withal an important series of contributions.

2. *Contribution to the Pathology of Porencephaly.*—The brain was obtained from a laboring man who, during life, showed no evidences of paralysis and whose death was caused by an injury. On the outer surface of the left hemisphere there is an extensive defect (*einsenkung*) including the greater portion of the central convolutions, the supra-marginal gyrus and the posterior portion of the second and third frontal convolutions, the area corresponding to the second and third branches of the Sylvian artery. Over the depression the meninges were thickened and the cortex atrophic (microgyra). The deficiency exists chiefly in the subcortical white substance, which is replaced by a dense scar tissue. A

few scattered areas are present in the cortex. In the opposite hemisphere, symmetrically situated, was a small sub-cortical cyst. The author, who had made a very elaborate study of the case, believes the condition to have been of pathological origin, occurring during intrauterine life (*i.e.,* not a developmental defect). Kundrath suggests that such cases are of vascular origin, the vessels not being completely occluded. This forms an impediment to the circulation, which affects chiefly the deeper structures, because of the greater blood pressure required and the meager possibilities of collateral circulation. The advanced state of fissuration in the diseased area renders the later part of fetal life as the probable time of onset. The other portions of the affected hemisphere and that part of the opposite hemisphere, corresponding to the defect had undergone a considerable hypertrophy. This curious vicarious growth may compensate for the loss of substance incurred and explain the absence of symptoms.

3. *Pachymeningitis Cervicalis Hypertrophica and Dementia in the* Young.—Case I. Age fifteen years, syphilitic taint (?). When thirteen years old a severe occipital trauma occurred, followed by convulsions, later headache and vertigo. Convulsions recurred. Paresthesia present. Progressed slowly to dementia. The pupils were unequal, stiffness of neck, incontinence, atrophies in the face and extremities (degeneration reactions), legs paralyzed, slight claw-hand. Objective sensory disturbances were present; blind and deaf. Discs normal, no fever throughout, the pulse slow. Autopsy revealed a pachymeningitis interna hemorrhagica with atrophy of the subjacent cortex. Pachymeningitis cervicalis hypertrophica with cervical myelitis. Lumbar and sacral cord free. Degeneration of the pyramidal tracts in the cord only.

Case II. Age thirteen years, no hereditary taint. Rickets. Began with loss of memory, progressing slowly to dementia. Pupils unequal, nystagmus. Optic atrophy due to a chronic choroiditis. Jacksonian epilepsy in both sides. Atrophy of the small muscles of the hand (reaction of degeneration). Stiffness of the neck. Afebrile throughout.

Autopsy—Atrophy and chromatolysis of the ganglion cells of the cortex. No pachymeningitis interna. Well marked pachymeningitis cervicalis hypertrophica but without myelitis or degeneration of the pyramidal tracts. Similar in the two cases were: the age of two patients, the complete dementia, the afebrile course and cervical pachymeningitis. In both cases the process began in the brain, only after a perceptible interval extending to the cord. Thus supporting the theory of Köffen-Weiting that the cervical pachymeningitis is but the intimation of a meningoencephalitis.

4. *Contribution to the Etiology of Periodical Psychoses.*—Clemens Neisser says the important etiological factors in the production of the periodical insanities are: Heredity, trauma and organic cerebral disease. Those originating from organic disease showing a tendency to dementia. He reports a case following an apoplectic seizure, of the typical circular type. Mention is made of a case in which a stroke of lightning was the only demonstrable cause. Also a case following a trauma in which group of cases the prognosis is especially favorable. A wide mobile pupil during the interval is thought to indicate a persistence of the malady, although the patient may appear quite well.

5. *Metastatic Abscesses in the Central Nervous System.*—The author reports two cases of abscess formation in the pons and spinal cord respectively.

Case I. Onset with headache and fever of a pronounced hectic type. Five days later paresthesia and objective sensory disturbances on the left side. Paralysis of the right abducens and seventh nerves. Keratitis neuro-paralytica in the right side. No paralysis of the extremities. Later stupor and optic neuritis. Death in coma twenty-one days after the onset.

At the autopsy a solitary abscess occupying the right half of the pons was found. Also multiple abscesses in the liver and lungs. The only explanation of the bacterial infection was found in a small ulcer in the vermiform appendix caused by a fish-bone. In the literature the author has collected thirteen reliable cases of abscess of the pons and medulla oblongata. Of these three were confined to the medulla. Abscesses in this region are nearly always metastatic. Some of the sources of infection are bronchiectasis, prostatic abscess, middle ear disease. Trauma, carious process in the bones of the skull and suppuration of the accessory sinuses, so commonly the cause of abscess formation in the cerebrum and cerebellum, is rarely affective in this locality, due to the anatomical relations and protected situation of theparts. The striking immunity of the brain stem to abscess formation of metastatic origin, has led some writers to suggest a chemical peculiarity as the possible explanation. Martins would seek the explanation in the general laws governing non-septic embolism, so common in the middle cerebral and so rare in the vertebrals or basilar. The spinal cord is likewise rarely the seat of abscess formation. Chiari was able to collect fourteen cases.

Case II. In the cord of a woman who had presented the symptoms of an advanced syringomyelia, myriads of minute abscesses were found, the largest scarcely visible to the naked eye. These miliary accumulations of normal cells were sharply circumscribed, and were found chiefly in the lumbar region most numerous in the gray matter and usually perivascular. The source of infection had been a fresh endocarditis. There were also infarcts in the spleen, lungs and kidneys.

6. *Diffuse Hemorrhagic Encephalo-myelo-meningitis.*—Martin Bartels reports the case presenting a variegated picture of cerebro-spinal disease. Headache, stupor, convulsions, vertigo, transient attacks of aphasia and paralysis. Optic neuritis. Hyperesthesia of the special senses. Dermographia and transient flushings of the face and body. Slight albuminuria. Histological examination disclosed a remarkable process, affecting the veins of the central nervous system. A periphlebitis, phlebitis and a large celled endophlebitis, analogous to Heubner's endarteritis. The arteries apart from the periarteritis presented no change. Nowhere was an endarteritis demonstrable. The intense proliferation produced nodular and semilunar elevations, sometimes concentric. The lumen was not obliterated and nowhere could thrombi be demonstrated. Giant cells were found occasionally, but neither gummata, tubercles nor areas of necrosis. The cord was the seat of diffuse degenerative changes. Small hemorrhages had occurred in the basal ganglia and in the cortex, but none in the cord. The degeneration in the brain was very slight. The layers of the meninges were diffusely infiltrated with round cells, as were also the perivascular lymph spaces. The kidneys did not show these changes. The other organs were not subjected to microscopical examination. These changes were attributed to syphilis and were thought to represent an early stage of the cerebrospinal affection. Mention is made of Reider's investigations, who claims that the first effect of syphilis is an endophlebitis. The large-celled endophlebitis of the umbilical vein in fetal syphilis has been confirmed by various observers.

7. *Central Neurofibromatosis and Tumors of the Cerebello-pontine Angle.*—The authors, Henneberg and Koch, present complete studies of two cases of bilateral, symmetrically situated tumors of the cerebello-

pontine angle. One was the central localization of a generalized neurofibromatosis, the other recurring in conjunction with multiple fibromata of the meninges. In both cases, the pontine tumors were intimately connected with the acoustic nerves and attained the size of horse-chestnuts. Attention is called to the frequency of tumors arising in this locality, springing most commonly from the eighth nerve, but also from the fifth, seventh and other bulbar nerves. Histologically the neurofibromata are most frequent, but gliomata also occur. Normally elongations of glia may be traced for about one cm. in the extra-medullary portion of the nerve-roots. The growth fills in the cerebello-pontine angle (*cerebellarbrüken winkel*) and produces a more or less characteristic syndrome. The most important and most constant symptom is an auditory paresthesia or paralysis, but this may occur late. Headache is usually occipital, but may be frontal, and rarely crossed frontal headache has been observed. The latter due to irritation of an anterior cerebellar peduncle. Common symptoms are facial paralysis, trigeminal neuralgia, cerebellar ataxia, nystagmus, rarely paralysis of the associated ocular movements. Peculiar forms of dysarthria and vasomotor disturbances have also been noted. Hemiplegia may be absent, but if present, is usually on the same side as the tumor (centro-lateral pressure against the base of the skull). It has, however, been observed on the opposite side. Tumors in this locality may simulate some of the following clinical pictures: bulbar paralysis, Menière's disease, paraplegia, aneurism, lues cerebri, and hysteria in an initial stage. J. RAMSAY HUNT (New York).

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1. Upon Indirect Secondary Atrophy of the Nervous Elements. E. TANZI.
2. Polyclonia in Dementia Paralytica. R. LAMBRANZI.

1. *Secondary Atrophy of Nerve Elements.*—The author reviews the literature of this subject and contributes a description of his findings in the experimental study of neuronic atrophy from functional inertia through suppression of a given function from birth. Enucleation of the eyes was practised in newborn rabbits and dogs; the animals being killed from six months to a year after operation, and the condition of the visual center studied macroscopically and microscopically. The findings are minutely described in these as well as in the case of an anophthalmic dog. The salient points in the conclusions drawn are that lesions of the nervous system of the newborn animal induce complete degeneration solely in those neurones which are directly injured. Those neurones which are simply in relation with the injured, but are not themselves involved, undergo a process of atrophy but are never entirely destroyed. As suppression of functional stimulus is incapable of causing disappearance of cells, but can only render them atrophic or arrest their development, it may be inferred that every nerve-cell has hereditary power to attain a certain degree of development and to this hereditary development is added that which is derived from its anatomical connection and consequent functional activity. Such complement of the ontogenetic development is greater in the higher order of animals which have a more "plastic" cerebral cortex and are capable of greater development. It may be inferred also that the higher orders of nervous centers are the most susceptible to the influence of suppression of functional stimuli.

2. *Polyclonia in Dementia Paralytica.*—This article follows a line of argument presented in a previous work, tending to show that myoclonia